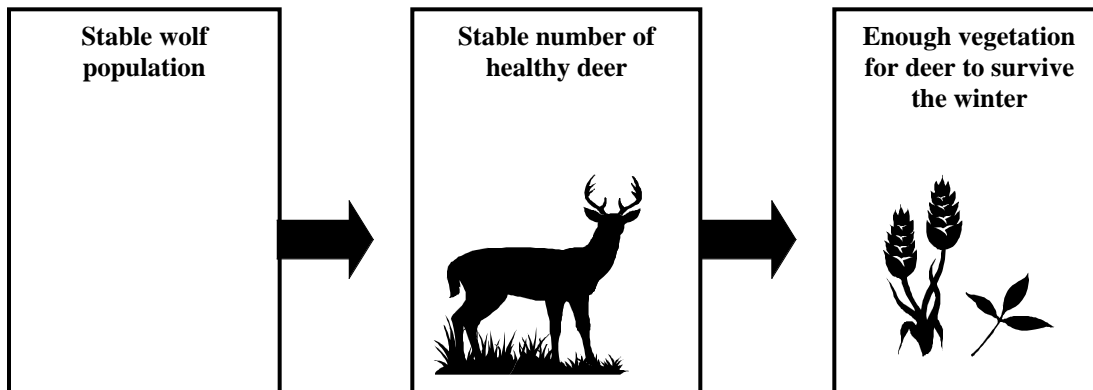


The Web of Life

The Balance of Nature

The Role of the Top Predator

Red wolves are important to the health of an ecosystem. The natural prey of red wolves are white-tailed deer and other small to medium sized mammals. Wolves help limit the number of prey animals in their territory. For example, by helping to keep the deer population under control, wolves also help keep the vegetation healthy by preventing overgrazing and overbrowsing. The flowchart will illustrate this for you.



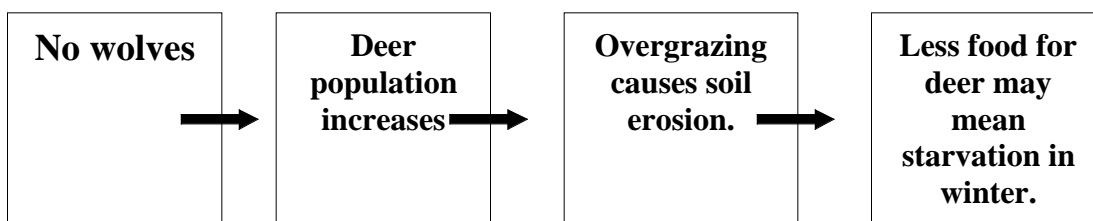
Aldo Leopold, the great naturalist, wrote the following description in his famous essay "Thinking Like a Mountain." Leopold is remembering an experience in his youth when he shot a wolf.

Read this selection aloud as a whole class with the teacher and discuss it, or read it in small groups and speculate about what you think Leopold is saying. Combine your ideas with the whole class.

"We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes-something known only to her and to the mountain. I was young then....I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view.

Since then I have lived to see state after state extirpate its wolves. I have watched the face of many a newly wolfless mountain, and seen the south-facing slopes wrinkle with a maze of new deer trails. I have seen every edible bush and seedling browsed...to death. I have seen every edible tree defoliated to the height of a saddlehorn....In the end the starved bones of the hoped-for deer herd, dead of its own too-much, bleach with the bones of the dead sage....

I now suspect that just as a deer herd lives in mortal fear of its wolves, so does a mountain live in mortal fear of its deer.



THE CYCLE OF LIFE

Red wolves and other top predators must kill to live. Their bodies are designed for predation (see “Designed for Hunting”), and their digestive systems are specially adapted to process their diet of meat. Being a predator is a hard job and a dangerous one. For example, the sharp hooves of a deer can kill or severely injure a wolf. It makes sense for a wolf to select the prey that is easiest to catch and kill. If the prey is an ungulate, or hoofed animal such as a deer, the wolf will usually select one that is vulnerable – old, sick, or young.

Predators are essential ingredients of a healthy ecosystem. They feed the scavengers that visit wolf kills no matter what the prey the wolves have selected. In a process called “resource partitioning,” various animals, depending on the time of day, divide up the leftovers. This eating in shifts means that different species take turns at the kill, and competition is thus reduced. Crows and vultures dine at a wolf kill; blue jays, nuthatches, chickadees and woodpeckers search for morsels just as they do at the suet feeder in your backyard. Foxes and coyotes watch for their chance. Others who search for wolf leftovers are weasels and skunks who pick at bones. Small rodents make nocturnal visits at a kill to search for bits of food. Beetles and other invertebrates benefit from carrion – and many birds come to devour the bugs! Ticks, fleas, flies and other parasites also buzz and crawl around a rotting carcass. Larvae produced by flies attract more birds and often bears. The process of decomposition provides fertilizer for the plant life around the carcass. This vegetation will provide food for the herbivores such as deer, thus ensuring the continuation of the cycle of life.

(Resource: “Wolves: Engineers of Biodiversity” by Nancy Gibson – International Wolf, Summer, 1999)

Your Turn!

Design a graphic to illustrate the role of the **red** wolf as a top predator in strengthening the biodiversity of an ecosystem. See how many different animals and plants you can include that benefit from the presence of a dominant predator like the red wolf. You can create a web or a pyramid using a variety of art materials. You might want to work independently or with a partner.

DESIGNED FOR HUNTING

EYES

- Binocular vision
- Can see to hunt in darkness as well as in daylight

NOSE

- Sense of smell is strongest of all the senses
- Can smell prey from long distances

FEET AND LEGS

- Long slender legs enabling wolf to trot tirelessly for long distances or to sprint when chasing prey
- Elbows that turn inward so that feet track in a straight line underneath body
- Runs on toes for speed - review activity on plantigrade and digitigrade
- Large round feet for traveling on snow and mud
- Long flexible toes that spread out for gripping on rock

EARS

- Long ears that can detect the slightest of sounds
- Long ears help body get rid of heat in summer

MOUTH AND JAWS

- 42 teeth
- long canine teeth for piercing and gripping
- incisors for nibbling and cleaning bones
- caninials for shearing and cutting meat
- powerful jaws for crushing bones

Did You Know. . .?

- Wolves don't "kill for the fun of it!" It's a hard enough job just to find enough to eat in order to survive.
- Wolves sometimes kill more than they can eat at one time. They may cache extra food, or they may leave it for scavengers to consume.
- Wolves must drink a lot of water because of their meat diet in order to digest their food.
- Wolves don't chew their food; they gulp it down in chunks. That's where the expression "wolfing your food" comes from.
- Wolves often go several days - sometimes a week or more - without eating. Life is truly "feast and famine."
- Wolves carry food to the den or the rendezvous site in their stomachs. They regurgitate food for the pups or for the nursing mother who cannot leave the den to hunt.